

Precision SHOOTING

MAY 1965

Vol. 10, No. 1

40 cents



a magazine for Shooters by Shooters

Editorial and business office at
Lyndonville, Vermont 05851.

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Subscription rates:—To the U. S., Canada and Mexico, 1 year \$4.50, 2 years \$8.00. All other countries \$1.00 per year additional. Change of address requires 30 days' notice.

Place of Publication—Cowles Press, Inc., St. Johnsbury, Vt. Second-class postage paid at St. Johnsbury, Vt.

COVER PHOTO

Fred T. Huntington, President of R. C. B. S. Incorporated is shown in the customer service area of his Oroville, California plant. Fred provides this handy reloading area to demonstrate the equipment he manufactures. An avid big game hunter, his plant is tastefully decorated with trophies he has collected from around the world. Huntington's tools, dies and related equipment are well known by reloaders throughout the country.

HERCULES "RELODER" POWDER

(Excerpts from a Hercules Powder Company "News Release.")

Space technology in propellants has been adapted by Hercules Powder Company to develop a family of modern rifle powders specifically tailored to meet the needs of today's higher-performance rifles. Long active in the research, development and manufacture of propellants for both hand loaders and ammunition makers, Hercules reviewed the needs of the shooters and established a set of criteria that a new powder would have to meet or exceed. Then, blending its experience, which helped develop such missiles as Polaris and Minuteman, with its 50 years of technology in powder manufacture, it produced a completely new powder to meet the development goals.

The resulting powder named Reloder was designed to meet these specific requirements:

Accuracy: Shot-to-shot repeatability of ignition time, pressure rise, peak pressure, gas temperature, gas density, impulse at any temperature from -50 to 140 F. No change in performance with storage temperature over a broad temperature range.

Striking Power: No sacrifice in velocity to achieve the above accuracy.

Safety: No increase in maximum pressure, shot-to-shot precision in pressure peaks.

Barrel Life: Minimize gun barrel erosion and extend the life of the barrel.

Flash and Smoke: Improve the standards previously set for Hercules clean-burning, flashless and smoke-free, double-base powders.

Charge Weight: A powder family with all of the previous characteristics but requiring less grains for each load, thus passing on a savings to the shooter.

Out of the Hercules laboratories came four formulas. All met the above goals, but one was exceptionally good in reducing corrosion, another excelled in velocity (at safe gun pressures), another required lower charge weight, another reduced flash and erosion. Yet, a composite formula of all four did not give the peak value found in each one separately.

Further study, tests, and analysis of the reams of data indicated that a blend of all

REGARDING

Firearms Legislation

What pees me off no end about too much of the anti-firearms legislation that has been and is being proposed is the obvious insinuation that all gun owners are potential criminals who must be put and kept under police surveillance. That is not a very subtle defamation of the character of millions of loyal, law-abiding, substantial citizens of any country. It entirely violates the American concept of not guilty until proven guilty by fair, impartial trial. It is a patent indication of at least a beginning of a trend toward a Police State. That attitude, alone, is something for every decent person to fight against.

I am opposed to all proposals for gun registration. I don't think it is necessary; I don't think it would serve any worthwhile purpose; and I don't like the Police State tendency angle. Instead of gun registration aiding police in apprehending a person using a gun while committing a crime, I believe it would be giving the criminal a break by providing extra time for get-away while police search for and question the owner of a registered gun.

The point is frequently made that gun registration would provide lists which a possible invader of the country could use to quickly and conveniently disarm its citizens. That is no doubt true. But who has stopped to think that the lists of licensed hunters that we already have could serve in that hypothetical disarming job nearly as well as gun registration lists—it would not list all guns but it would list a great majority of gun owners. We need better ammunition than that.

Some points that will register with most legislators are EMPLOYMENT, TAXES and VOTES. The total shooting sports complex includes all three of those points.

The manufacturers of firearms, ammunition, accessories and appendages plus the distributors of those products represent a not unimportant part of our national economy. In the whole they supply employment to a pretty sizable number of people. Their overall contribution to government operation

four would provide the individual characteristics to the entire load. Subsequently, extensive testing proved this theory to be correct, and Reloder powder was born, combining the best features of the individual components. Now, two years later, and after more than 100,000 rounds of firing, the powder has demonstrated it has met all of the goals and exceeded a few.

Work on the new powder, which is an especially colorful one in that each of the four component powders are of different colors, was conducted at Hercules' Kenil, New Jersey, laboratories. Extensive tests were conducted there also and at other industrial ballistics ranges.

The Powder, which is considered to be custom-tailored to today's shooter, is as precisely blended as a pharmaceutical prescription.

(Editor's comment: If this Reloder powder lives up to the claims made for it, and as of now I do not question that it will, it should be as "flexible" in loading, or more so, than the discontinued HiVel No. 2, which always had an enviable reputation in that respect. The only fault we ever heard about HiVel No. 2 was that it was "erosive" in hot loads and tended to burn our barrel throats. It would appear that the new Re-

loader powder would eliminate that fault. I'd suspect that the Reloder powder may not be generally available on dealer's shelves for some time yet. I'll try some when I can get it, and P. S. would very much like to receive reports from hand loaders who test it in various cartridges.)

With the accelerating growth of our population, and the trend from rural to urban or suburban concentration, shooters must expect and accept more legislation regulating the use of firearms. If such legislation is sensible and fair to all concerned it should follow the lines of conduct practiced by all responsible sporting shooters. Such regulatory legislation would not stop all irresponsible and vandalistic shooting but with aggressive enforcement and adequate penalties it could serve as a deterrent, and be a help rather than a hindrance to the shooting sports. Even now, in the thinly populated rural areas, the irresponsible shooters and vandals are making it tough for responsible sportsmen to find a place to hunt or shoot.

The apparent beginning trend toward introducing legislation specifically against the misuse of firearms in criminal acts, with mandatory additional sentences and stiff penalties upon conviction, is sensible and desirable, in this writer's opinion. But he thinks that specific legislation against "careless and negligent" misuse of firearms resulting in damage to life or property, with mandatory sentences and adequate penalties, would also be sensible and desirable.

What this writer believes to be needed most of all is massive promotion of the shooting sports as interesting, healthful, pleasant, family RECREATION and adequate facilities for engaging in such recreational activity. We'll pass on our thoughts on this subject in a later paper and invite discussion of it.

P. H. T.

A MISCONCEPTION

The "news release" on the new HERCULES "Reloder" powder tended to give me the impression that one blended powder was presumed to provide all good features for nearly all rifle cartridges for all purposes. (That would be quite a chore.)

The first advertisement of the "Reloder" powder that I have seen states; "... new series of double-base powders for center-fire rifles—available in three ballistic speeds, each compounded for specific range requirements."

That seems more reasonable and sensible, and fits in with the practice of most reloaders who select what they believe to be the best powder type for a specific cartridge and purpose.

I shall be anxious to try these new powders when they become available in this area.

P. H. T.



NORMA 30-06 WITH NOSLER BULLET

Early last winter I received for testing a box of 20 NORMA 30-06 cartridges loaded with the NOSLER Partition bullets. During the winter I was unable to test-shoot the cartridges under reasonably good testing conditions for accuracy. Very recently we had a Sunday morning fit for test shooting and from bench rest at 100 yards range I fired the above 10-shot group with these cartridges. The group measures 1.30 inch between center to center of widest bullet prints.

The rifle used was Springfield NRA Sporter, made at Springfield Arsenal in the late 1920's for sale to NRA members. The rifle is original except that a former owner shorted the buttstock a bit and installed a lattice type rubber buttplate designed for shotguns, and I have had bases installed for

target scope mounts. The scope used was a Unertl 1 1/4 inch target scope in 10X. For the shooting the rifle was rested on sandbags.

Since being in my possession (about 4 years) my overall average accuracy with best loads at 100 yards range has been very little more than 1 1/2 minute of angle. Therefore, I would consider that the group here illustrated is just about the best accuracy that could be expected from this rifle. From this one test, I'd consider this ammunition to be of target accuracy potential. I had intended to fire a 5-shot group but the 5 were grouping so nicely that I continued to fire the other 5 to confirm what I was seeing through the spotting scope. The NOSLER Partition bullets are, of course, pretty universally held in high regard by users for both accuracy and excellent performance in game shooting.

I had loaded 20 rounds with 50 grs. of 3031, Hornady 150 gr. Spire Point bullets and W-W primers in Remington cases to compare point of impact of the two loads. The point of impact of the NORMA and handload at 100 yards was practically identical. A 10-shot group with the handload following that with the NORMA had an extreme spread of 1.885 inch, with 9 grouped in 1.215 inch, center to center. The stray at four o'clock may have been the cumulative error of several small variables all in the same direction—not a common occurrence but it can happen. Had the stray been entirely due to shooter error I feel sure that would have been recognized when it was fired.

I'm inclined to hoard the remaining 10 rounds of NORMA ammo in hope for a test on deer next Fall. P. H. T.

EXPERIMENTAL BALLISTICS ASSOCIATES 4TH ANNUAL MEETING

THE FOURTH ANNUAL MEETING of E. B. A. was held in Washington, D. C., Sunday, March 28th. Seventeen associates and three guests for a total of twenty attending made this our most populous yearly event. About twenty five of our associates, nearly half, attended the N. R. A. Convention one day or another.

The Adams Room of the Sheraton Park Hotel provided the happy setting for Experimental Ballistics Associates coming of age. The idea of exchanging test data of amateur ballistic workers has proven workable. This is no longer a trial balloon, E. B. A. is here to stay.

Beyond the recitation of mere events occurring that day, there is the solid fact that time and again serious people earnest to learn basic ballistic facts attend our meetings. A need for correct information is evident, and the desire for this is manifest in the attendance. Where else except E. B. A. can any worthwhile ballistic data be found working?

The Application of Newtonian Mechanics to Internal Ballistics was the rather imposing topic of the formal talk at this meeting. Those who have followed the articles in Precision SHOOTING will understand what this is all about. I. B. IV in the April issue will summarize what the talk in Washington covered.

Newton is known for his Calculus, and any full development of his mechanics requires the use of it. And at our meeting no punches were pulled, a full derivation of each formula was given, including the steps of differentiation and integration involved. While this is calculus, it is quite possible to show those who don't understand or use the system that the equations we have been promoting stem from solid principles. The purpose of revealing the source of any formula is to make it more understandable. Calculus is simply a means of converting ideas from one set of conditions to another.

Internal ballistics is concerned with how a round behaves in a gun. All the energy a bullet has is in it when the base

clears the muzzle of the gun. One thing alone within the barrel gives it this energy, and that is PRESSURE. No pressure means no bullet movement, and low pressure means low velocity. These points were among those made at our meeting.

That the equations based on Newton Mechanics are linear, showing pressure to relate the pressure for any load to sound test results. DuPont Reloading Information provides the sound base for estimating the pressure of any related load.

A graphic method for finding pressure by this method was shown. In addition an analytical means of solving for pressures of different loadings, and for estimating the proper powder charge was discussed. It was pointed out that, while calculation should never displace careful testing, this is the most reliable way to estimate pressures.

An active discussion period followed the formal talk. This centered mainly upon ignition and unexpected pressure signs such as those cases of gun damage from reduced loads of some slow burning powders. While no conclusions were reached in these exchanges, some points worth mentioning were advanced:

The speaker, Ed Yard, revealed recent test results that show primer energy to be greater than many handloaders may realize, and that powder heat release values (shown by his bomb calorimeter checks) mean quite irresistible forces. Primers alone raise the pressure in cartridge cases to thousands of pounds per square inch. If bullets did not move, and do so freely, p. s. i.'s in the hundreds of 1000's would be the answer. The unmitigated violence contained in most cartridges could cause more havoc than it does. Only because the bullet serves as a safety valve and flies ahead of the inferno behind it to let the gas escape is real wreck-age avoided.

Others referred to evidence of shock waves, reflection of pressure waves, charge displacement and concentrations, delayed combustion, and many another thing to explain the imponderable. Except in controlled experiments, we do not know with certainty what the conditions responsible for accidents were. But the interest in pressure

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COMING MATCHES

(We will list place, date, type and title of match, name of sponsoring organization, name and address of contact person, at a nominal flat rate of \$2.00 per insertion, prepaid with insertion order. Insertion orders must reach the Precision SHOOTING office, Lyndonville, Vt., 05851, at least 45 days before date of match for single insertion orders. For multiple insertions, 30 days additional must be allowed for each additional insertion desired.)

LIBERTYVILLE, ILLINOIS: June 20th; Annual Blackhawk Prone Smallbore Rifle Tournament. Blackhawk Rifle Club. Programs from Harry R. Tevis, 315 N. Merrill, Park Ridge, Ill. 60068.

RICHMOND, CALIFORNIA: Richmond Rod & Gun Club presents "The Hunting Rifle Bench Matches" to be held at Richmond Rod & Gun Club, 3155 Goodrick Ave., Richmond, Calif. on June 13. Contact: Len Shepherd, 229 Clorinda, San Rafael, Calif. 94901—Phone 456-5659.

(if not a preoccupation) showed both the respect for it and the curiosity about its manifestations.

This meeting underscored what has been increasingly evident. The basic idea behind E. B. A., the free exchange of ballistic data and the communication of test results between those competent and sincerely interested, the chance to associate with others of like interests, is a marked success. Events we schedule draw amazing percentages of those with any chance to attend. E. B. A. has made its mark, upon its associates, and upon the shooting world. We'll hope to keep our future meetings up to standard. What we share comes back to us many times.

For Experimental Ballistic Associates
By E. M. Yard, coordinator

Notes from the Library

By Creighton Audette

LONGEST RECORDED BENCH REST SHOOTING?

The outside of the two-story, former factory building bore a large sign "THE WHITE ELEPHANT SHOP." Inside on the second floor in a room dimly lighted by those rays of daylight which managed to penetrate the dust and cobwebs on the windows, I viewed the titles and covers of dusty piles of old books and magazines. I noticed a shelf of official government reports of the 1880's—"The Report Of The Secretary Of The Interior"; "The Report of The Secretary of Commerce"; "The Report Of The Secretary Of Agriculture"—What was this? "The Report Of The Secretary Of War," 1880, Volume III.

Dusting it off, I carried it to a window and, opening it at random, my eyes fell upon a chapter titled "Extreme Ranges Of Military Small Arms." Glancing down the page, I saw a sentence "The firing was done by Mr. R. T. Hare, of this Armory, who has the enviable distinction, so far as is known, of being the only person in the world who has ever hit the 'bull's-eye' six feet in diameter at 2500 yards with three different rifles, and who has ever fired at and hit so small a target as that described in this report at 3200 yards. In comparison with this all other so called "long range firing" sinks into insignificance. The gun was held under the arm, a muzzle rest only being used."

As I passed out through the door of the shop, a somewhat bored clerk glanced at the book, and quoted me a price of \$1.00, which I quickly paid. Little did he know of the treasure he had sold!

The chapter on long range firing starts with a report from the National Armory at Springfield, Massachusetts which is dated May 9, 1879. It records the results of long range tests made at the request of the Chief of Ordnance, whose interest in this had been aroused by reports of long range infantry fire, up to 1½ miles, during the Turko-Russian War. The first long range tests were made at ranges up to 1500 yards on the Springfield Armory test range which was located in Long Meadow, Massachusetts. These tests were for the purpose of comparing the long range performance of the .45 caliber "trap-door" Springfield and the .45 caliber Martini-Henry rifles. The Springfield was tested with the then standard government bullet of 405 grains weight with a charge of 70 grains of black powder giving a muzzle velocity of 1350 FPS and also with the same bullet and a charge of 85 grains of powder giving an MV of 1480 FPS. The Martini-Henry was used with British service ammunition which consisted of a 480 grain bullet and 85 grains of powder giving an MV of 1253 FPS.

The following table gives the angles of elevation for these loads from the actual test firings at 1000 and 1500 yards:

ANGLES OF ELEVATION	1000 yards	1500 yards
.45-85-405	2° 40' 53"	4° 35' 34"
.45-70-405	3° 6' 37"	5° 20' 4"
.45-85-480	3° 18' 36"	5° 41' 24"

Accuracy firings of the rifles were made at 300, 500 and 1000 yards. As a matter of interest, the 1000 yard figures are listed below. Although there is no direct relationship between mean radius figures and group size, it is probable that a mean radius of 18" to 19" would translate into a group size of somewhere between 55" and 70".

As one would expect, the mean vertical figures are considerably larger than the mean horizontal. This is the result of variations in muzzle velocity, which give this result at long range, and also the effect of the high trajectory of these rifles since the target is perpendicular to the ground while the bullet is descending at an angle.

	MH	MV	MR
SPRINGFIELD	9.23"	16.8"	19.1"
MARTINI-HENRY	10.9"	14.55"	18.2"

The report of October 15, 1879 covers long range firing at Sandy Hook, New Jersey. This was done along the beach to make the location of the bullet strike easier to find, and at distances back to 3200 yards.

The rifles tested included a special "long range" Springfield chambered for a 2.4" shell in place of the standard 2.1" and using 80 grains of powder and a 500 grain bullet. The other loads tested were the standard .45-70-405 service load in the standard Springfield and the .45-85-480 load in the Martini-Henry.

The report states that a leaf to the rear side several inches in length was prepared in order to get the necessary elevation. A combination of the buck-horn slide of the regular sight and a screw at the bottom of the leaf afforded means of correcting for wind, drift, etc.

The target, which had been 12 feet square at the shorter ranges, was changed to one 44 feet long and of a height of 22 feet, for the original 12 foot width, and a height of 16 feet in the extended wings. Since one of the objectives was testing penetration, the target consisted of three one inch thick boards separated by one inch cleats. The target was constructed partly of spruce and partly of pine as these were the materials at hand and was supported on six inch spruce posts.

In the tests at 2500 yards, the target was hit five times with the service rifle in 70 rounds, once with the Martini-Henry in 80 rounds, and four times with the long range Springfield in 30 rounds.

Bullets from the long range Springfield passed through the three inches of wood and buried themselves in the sand with the exception of one which went through the target and into a supporting post giving a penetration of 5.25". The service cartridge gave a penetration of 1.12" and the Martini-Henry a penetration of 2.50".

Angles of elevation were Springfield service 17° 08' 16"; Springfield long range 10° 38' 21"; and Martini-Henry 13° 20' 18".

The angle made by the shot holes with the face of the target appeared to be about 40°, 45°, and 50°, for the service, Martini, and long range rifles respectively. (This angle is taken from the vertical and thus the lower angular reading indicates the higher angle of descent.) Bullets of the various kinds were dug out of the sand within 45 feet of the target and directly behind it. This fact shows how great the angle of the trajectory at this range, and how extremely difficult to hit a target the size of the one used.

The target was then placed at 3200 yards from the firer. The range chosen was fortunate in this, that it was found to be the extreme for the Martini, for when the firer was instructed to increase his elevation, the range decreased. On decreasing the elevation, the range increased to a certain point. Still the majority of the Martini balls fell from 50 to 100 yards short, while the

others did not go more than 25 yards beyond.

Over 300 Martini cartridges were fired but the target was not hit. All but 20 of the cartridges at hand were fired, these being reserved for velocity tests. At this range, the angle of fall was about 65° to 70°, judging from the holes in the moist sand. Bullets were found in the sand behind the target, 22 feet high, at a distance of only 35 feet. It was evident that they struck the sand end on, as the points were always found rough and slightly bruised.

With the long range Springfield, the target was hit three times, once where it was one board and twice where it was two boards thick. In each case the bullet passed clear through and buried itself several inches in the sand. The angle of the shot hole with the face of the target was about 30°, and the bullet in going through the two boards actually passed over 2.5". Those shots that struck in the sand generally penetrated to a depth of from 8 to 10" and sometimes more. In this respect, they surpassed the Martini bullets, which did not often penetrate more than 6". In trying to get the proper elevation, the long range bullets were thrown over 300 yards beyond the target and then were dug out of the ground and found to have struck point on.

The angle of elevation for the Springfield long range rifle at 3200 yards was 20° 51' 37". That of the Martini-Henry was 26° 51'.

The report of November 13, 1879 lists the results of tests made at 3500 yards range with two long range Springfields, one having an 18" twist and the other having a 19½" twist. Two different loads were used, one containing 70 grains of powder and a 500 grain bullet and the other 80 grains of powder and a 500 grain bullet. The Martini-Henry and service Springfields were again tested and also a Sharp's Borchardt using the same loads as in the long range Springfields. The Martini-Henry and service Springfield loads failed to reach the target.

In these experiments, two telephones provided with Blake transmitters were used. One was placed within a few feet of the gun and left open to receive and transmit the sound of the discharge. The other was in the shelter-proof, which was but about 30 feet in front of the right edge of the target. A stop watch beating fourths of a second was used in connection with the phones. The telephone being at the ear, the instant the sound of the discharge was received at the target, the watch was started, and on the bullet striking was stopped. Average time of the flight for the .45-70-500 grain load was 21.2 seconds while with the 80 grains of powder, the time of flight was 20.8 seconds. Angles of elevation ran from 27° to 29° approximately, varying materially from day to day due to the effects of head and tail winds. For some reason, not understood, the quicker twist guns seem to require a little less elevation than the others of the same range. The greatest range obtained with the long range, 18" twist gun was 3680 yards. This was at an angle of elevation not exceeding 32° on a day when an angle of approximately 25° placed bullets all around the target at 3500 yards range.

These tests indicated relatively little difference in the performance of the .45 Springfield when using the 500 grain bullet with either 70 grains or 80 grains of powder. As a result of these tests, the .45-70-500 grain load in the 2.1" shell was recommended and subsequently adopted.

Interestingly, the extreme range of the .30 ball, M2 cartridge using the 152 grain Spitzer bullet at 2800 feet per second is only approximately 3500 yards. The .30 boattail M1 cartridge having a bullet of 172 grains

weight at 2600 feet per second has a maximum range of approximately 5500 yards, while the .30-40 Krag using a 220 grain bullet at 2000 feet per second has a maximum range of approximately 4000 yards. .22 caliber center fire loads used for bench rest shooting have a maximum range of somewhere around 3000 yards.

I have a .45-100 Sharps Borchardt long range rifle and a .45-100 Montana Model Ballard. If anyone knows where there is 3000 to 3500 yards of unoccupied beach available for a range, how about a long range bench rest match?

EXPLOITING TRAGEDY

A LETTER: Dear Phil: When we last talked (Apr. 10th) I never expected that I would be sending you copy anything like the enclosed.

Johnny Spain's 12 year old son Timothy was accidentally shot by an 11 year old companion and died of a lung hemorrhage almost immediately. It seems that the kids had gotten some .32 Auto ammunition and had loaded it into a .32 automatic that Johnny had stashed away. They took out the magazine but had inadvertently loaded a round into the chamber. The kid pulled the trigger and Timmy was struck in the shoulder.

This morning (Apr. 15th) the Times-Union (a Hearst newspaper) printed the enclosed editorial. Most of us around here considered it in execrable bad taste and Jim Maher, the President of Forbes Rifle Club, agrees with me that it should be answered and suggested that I do so. Therefore we will appreciate it if you will print the enclosed open letter to the Times-Union Editor. (This paper has been particularly vicious in its attacks on those of us who oppose the Dodd bills.)

Dermot C. Reilly

(The editorial in Albany, N. Y., Times-Union of April 15, 1965.)

TRAGIC DEATH

Far too often, we believe, area newsmen face the dismal assignment of having to report that another child has met accidental death because of a gun. Usually the circumstances are similar — boys too young to know the workings of these lethal weapons, playing with them innocently, and the guns themselves, and ammunition, available either by accident or through some momentary, careless lapse.

Guns are deadly. They are a continuing source of personal tragedy. It is no less a tragedy because the deaths and injuries are accidental. Yet we still have among us those who are outraged at any suggestion that a gun is anything but a harmless piece of sporting equipment.

(The open letter.)

April 15, 1965

An Open Letter to the Editor of the Albany Times-Union

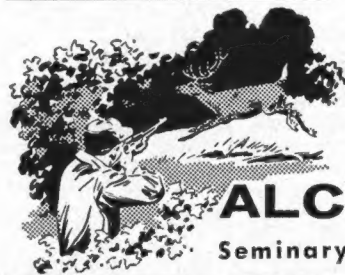
Dear Sir:

Your editorial in the April 15 Times-Union and particularly the snide innuendo behind the sentence thereof reading: "Yet we have those among us who are outraged at any suggestion that a gun is anything but a harmless piece of sporting equipment," approaches a new low.

For you to refrain from rubbing salt into the wounds of the families most concerned by the death of Timmy Spain would probably be too much to expect, but even the most nebulous vestiges of decency should contraindicate using the tragedy as ammunition in your short-sighted campaign



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to ridicule and misrepresent the position of those Americans who value all of their constitutional liberties and thus make a mockery of the diligent and self-sacrificing efforts of members of the Spain family to preserve those liberties.

Both the Federal and State constitutions provide that no person shall be deprived of life, liberty or property without due process of law. Eighty years ago the Court of Appeals, in defining liberty said: "The term 'liberty,' as protected by the constitution, is not cramped into a mere freedom from physical restraint of the person or a citizen, as by incarceration, but is deemed to embrace the right of a man to be free in the enjoyment of the faculties with which he has been endowed by his Creator, subject only to such restraints as are necessary for the common welfare."

No boy loved or enjoyed his liberty more than Timmy Spain. No man of comparable age in comparable circumstances has worked harder to defend the rights of citizens to have and use their guns and otherwise do as they see fit without contravening the laws of God or the rights of others than his father, John Spain. Two of his brothers are now Marines, as was his father in World War II. (This from nearly thirty years acquaintance.)

Since it is improbable that those who will benefit most from the great disservice to the cause of liberty that you and the editorial staffs of other Hearst papers have so ably rendered since the death of President Kennedy will reimburse you, please accept the enclosed thirty pieces of silver, which I have been taught to believe is the customary payment for such work.

No one questions your right to defend your untenable thesis if and as you will, but, in the name of honor and decency, don't ever again prostitute the terrible and tragic irony of such an accident.

Very truly yours,

Dermot C. Reilly

RANDOM COMMENT

"Aging Eyes and Iron Sights" by Dr. Lee (April 1965) has in it the germs of all the principles which, properly used, would solve the senior shooter's sighting problem—provided of course that his vision is amenable to lens correction. It neglects only to extol the virtues of the large front-sight aperture, which I consider an optical aid too, as it permits aiming by symmetry rather than by tentative comparison. Altogether, his contribution is a fine article, entertaining as well as richly informative.

In my journeyman days, when much of my work was either underfoot or overhead if not out of reach, I provided myself with glasses having the near-vision segment at the top, and ground for clear definition out as far as I could reach. The idea was fine also for pistol shooting, as the sights stood out sharp and black at arm's length.

As to "Notes From the Library," I admire the iconoclast attitude of Creighton Audette because it reveals a desire to see the proof. One of my pet peeves is that in just about all fields of human endeavor wrong ideas are accepted at face value because the majority will not question what is already established, nor for the same reason accept proof to the contrary. Apparently the longer a falsity has endured, and the higher the authority, the harder it is to overthrow.

Jesse M. Grigg

Japan prohibits possession of firearms by the public. This law has led to smuggling of pistols into the country for criminals. According to the Associated Press, a good pistol will bring up to \$500. (NSSF)

Random Shots

By Betty Summerall Duncan

Gentlemen, I'm scared! I am not an alarmist; neither am I easily frightened. But—I say to you, if you do not now actively engage in the defense against the new Dodd Bill, S. 1592, then you will deserve to lose your personal firearms!!!

Just 190 years ago, on April 19, 1775, the first shot of the American Revolution was fired at Lexington. That was a fight for liberty! Now, today, at this very moment, that liberty is being seriously threatened. We do not ask you to fight this battle with your weapons, but rather, for your weapons.

Your mission is to write letters and enlist the support of your friends. Explain S. 1592 to them, and have them write. To whom? To the statesmen who are dependent upon your vote for another term in office—your Senators and Congressmen! The President of the United States is a friendly fellow, and I'm sure that he would consider it a very neighborly gesture if you wrote him and told him how you feel.

I believe that he would particularly like to hear from the West Texas ranchers. After my experience with "highwaymen" not far from the banks of the Pedernales, I can well understand why rifles are necessary protection on those lonely stretches. That's good hunting country, too. I've seen deer so thick in the vicinity of Junction, Texas, that it was an effort to avoid running over them with the car. . . . Can't you visualize the reaction of those ranchers to having to search all over the Texas prairie for a licensed dealer to sell them ammunition? Do you know many dealers who sell enough ammo to afford to pay a \$100 license? I know of very few. If S. 1592 should become law, there is no guarantee that the license fee to sell rifle ammunition would remain at \$100.

Consider the \$1,000 manufacturer's license required of anyone manufacturing ammunition. Do you suppose that clubs engaged in re-loading for their members would be eligible for a share in the Anti-Poverty benefits? Otherwise, they would have to discontinue reloading.

Now that we are in a relaxed frame of mind, what better time to write those letters? Merely state your opinion on the subject briefly (without getting hot under the collar), be respectful, and neighborly.

If you are one of the thousands who would be without a job in the event of the passage of S. 1592, don't give it a moment's concern. Simply apply to the Treasury Department—they would have openings for red tape unravelers.

In order to absorb the seriousness of this very real crisis, it is enlightening to review certain incidents and the workings of the propaganda mill.

On February 7th, I was appalled to read the Gallup Poll's authoritative revelation to the effect that "73% of Americans say they favor" legislation to require a police permit before a person could buy a gun. But, hear what follows: "Interestingly, if the referendum were limited to just gun-owners, the proposal still would pass. Sixty % of this group would vote in favor of a law requiring police permits before a gun could be bought."

The matter of polls has bothered me for some time. Having a rather wide circle of friends and acquaintances residing in all of the 50 states, I have yet to encounter anyone who has ever been polled or who knows anyone who has been questioned by the pollsters. I beg your cooperation. If you



M/Sgt. William Krilling—USA—MTU

were one of the "representative sample of 1689 persons across the nation" who were questioned in this particular poll or if you know anyone who was interviewed, please mail us a postcard. Even if your information relates to a different Gallup Poll, we would appreciate a postcard.

One of the interesting aspects of Mr. Gallup's dictum is the perfect timing. Released the day after Senator Thomas Dodd's "secret" meeting to finalize launching plans for S. 1592, only the naive could believe it a coincidence.

Then, there is the matter of pressure. . . . When an experienced politician such as Senator Dodd risks antagonizing a large group of his constituents by ignoring the request of the Connecticut State Rifle and Revolver Association to attend the meeting originally set for January 30, 1965, and rescheduled for February 6, 1965—it is significant. One wonders who is directing the operation.

On February 14 we were informed in the press, "Dodd has re-introduced a bill identical to one that died in the Senate Commerce Committee last year . . ." and assured, "Dodd's bill would not interfere with legitimate gun sales. It is aimed at curbing mail-order sales to teen-agers and criminals."

If we are to review events chronologically, we should not omit the announcement on February 22, which at present is remotely related to S. 1592 but could be important in the general scheme of things: "The nation's first symposium on arms control and its many ramifications will be held here" (Los Angeles, Airport Marina Hotel) on March 9-10. (I know of previous disarmament symposiums but they were not intended to be publicized.) Outlining what was to be achieved by the panels of nationally recognized civilian and military experts, it was stated, "They will tackle the problems of 'Why Arms Control?', how to police limitations on armaments, and the economic-industrial impact of control." The symposium was jointly sponsored by the American Ordnance Assn. and TRW Space Technology Laboratories.

In his "War Against Crime" address to the Congress on March 8, the President, according to the newspaper article in front of me, "said he soon would submit a bill to prohibit inter-state firearms shipments except among importers, manufacturers and dealers licensed by the Treasury Department." . . . This surely was a "slip of the tongue," for I respectfully submit that the introduction of legislation is exclusively the

function of the Legislative Branch of our government.

Let us refer back to the February 14 release (3 paragraphs above) . . . The bill introduced by Senator Thomas J. Dodd on March 22 can in no respect be construed as being identical to S. 14 which he sponsored a year ago!!! . . . As for the statement that "Dodd's bill would not interfere with legitimate gun sales"—that is simply **not true!**

After the public was lulled into an apathetic security, the announcement on March 23 that "Dodd Submits Tougher Bill on Gun Sales" was hidden away on page 12 of a certain large newspaper. Specific provisions were either omitted or soft-pedaled.

New Yorkers en garde! Potent rumors point to your junior senator as being more than an interested party—poised, ready to spring at the psychological time to amplify the emotions aroused at the time of the tragic assassination of his brother.

We have but a simple, reasonable request to make of our statesmen. Reaffirming our Pledge of Allegiance to the Flag of the United States of America . . . "as a Government of the people, by the people, and for the people . . . whose just powers are derived from the consent of the governed . . . we earnestly urge public hearings on S. 1592.

I often feel that I am directing my energies toward the wrong audience, for we share a rapport on the firearms question. We abhor crime with guns, actually to a greater degree than does the general public. We are concerned with promoting the safe handling of firearms. We believe that if convicted felons were required to serve their full sentences, crime would be measurably reduced and unreasonable bills would not be directed toward law-abiding citizens. We are in accord with demands that guns be kept out of the hands of those convicted of crimes of violence, juvenile delinquents, the mentally deranged, and drug addicts.—Organized junior shooting programs prevent juvenile delinquency!—Yet, we justifiably resent restrictions aimed at those of us who take our shooting seriously and within the law . . . I have, more than once, explained—"Shooting is more than a hobby with me; it is a science." . . . These are only a few of the points on which we are in accord. Should I not be concentrating on those who don't have the facts on these issues?

Yesterday Don was the NRA Referee at a registered pistol tournament. The shooters generally were not aware of this octopus-

like bill, which is worded in such a fashion that you might have difficulty going into a neighboring state to shoot in a tournament, you would have to have permission from the Secretary of the Treasury to ship your gun for repair and then only for "authorized" repairs, etc., etc., etc. Those shooters should have received the NRA communication, yet they were happily oblivious to it. They also had the benefit of the Emergency Legislative Bulletin from the California Rifle & Pistol Association, made possible by the CRPA Firearms Freedom Fund.

Since many of you are loyal readers, I have concluded that I have an obligation to you to sufficiently interest and alarm you—who will be most vitally affected should S. 1592 become law—so that you will get out of your rocking chairs, sports cars, or etc., and recruit as many non-shooters as you possibly can to write letters. Do it now! There aren't enough Joes to do it for you this time. I know your intentions are good. This is the time to prove it. Please—wake up before it is too late.

This is D-Day (Defend against the Dodd bill), gentlemen!

Have you heard?

Between 700 and 800 Army riflemen will be sent to South Vietnam in coming months "to bolster security forces at scattered installations"! Ironical, in the light of all the fine speech-making to which we have been subjected, declaiming that the role of the rifleman is passe in modern warfare. That was particularly popular oratory about the time of the unheralded passage of Public Law 87-297, in September 1961, creating the Arms Control and Disarmament Agency—and afterward.

Yes, some of our friends will be going. We wish them "Godspeed"! . . . 3000 Marines have already arrived, and 400 M. P.'s reached the Saigon area in March. . . (Exercising great restraint, I'll refrain from editorializing at this point.)

RANGE TALK

The direction of U. S. shooting has been consistently up . . . up . . . up. Someone was bound to eventually bridle all human error and penetrate the perfection barrier. It couldn't have been a nicer guy than M/SGT. WILLIAM E. KRILLING of Ft. Benning's USA MTU!

A 3200 is a 3200 and, for once, the X-count—that little tie-breaking device—has seemed unimportant. The 1965 Silver Dollar Round-up, March 13-15, is already historic. It is the climax of a half-century of smallbore rifle competition. Winter Haven, Florida, will be remembered as the scene of Bill Krilling's great prone triumph. And, if you think that you can equal his feat by cleaning 320 shots, look again. He went on to shoot a perfect 4000 X 4000, with possibilities in the two prone team matches!!!

It was his Anschutz prone rifle which Bill fired—with Remington at 50-yards and 50-meters, and Mark III over the Dewar Course and at 100-yards.

His 1600-130X in the Metallic Aggregate is good for a National Service Record. He and Lt. Dennis Dingman established a National Service Record in the 2-man Dewar any with 800-65X. This was 2Xs over the record which Verle Wright and Pres Kendall set at the Silver Dollar Tournament a year ago . . . Lt. David Ross raised the 50-yd. any Service Record to 400-40X plus 1 10.

It was 15 years ago that Peter Romcovitz startled the smallbore world with his 3198 over the Critchfield Course—after which, the story goes, he went home from Perry, took his rifle apart, and it would

never shoot (that accurately) again . . . Those last 2 points were a long time in coming. The 3198 has been duplicated a number of times. Ray Steele raised the Record to volver Club, November 1953. By 1957 Jimmy Williams held the Junior Record with 3198-244X. As most of you know, 3199-256X at the Los Angeles Rifle & Re-Charlie Whipple has held the Record for some time with 3199-269X. There have been several other 3199's in the meantime—fired by Pres Kendall at Chattanooga; Ed Caygle, at Akron, who held the Service Record until now with 256Xs; Eric Sundstrom, who holds the Junior Record with 247Xs, fired at the Blue Trail Range; and Henry Benson, once at Phoenix and, I believe, in Oregon last summer. (If I have omitted anyone, please call it to my attention.)

I am not forgetting Dean DeLaMater, who pushed Bill Krilling into bearing down at Winter Haven. We understand that Dean, with a 3199, had more X's than Krilling . . . (My mythical Girl Friday isn't very dependable, and my correspondence is in a sad state. I'll get more facts as soon as she gets back in line. All of you who have been kind enough to write, please bear with me a little longer.)

In the February 1964 issue of P. S., "Random Shots" reported: "When it comes to 'shooting heroes', Krilling is among the foremost. Awarded the Distinguished Service Cross for bravery in action (Korea), he isn't likely to fold up from pressure on the firing line when no one is shooting at him! . . . Through it all he has maintained his sense of humor. His infectious laugh eases tensions for all around him . . . Shooting is a serious matter to him. He has excellent ideas on the psychological aspects of competitive shooting, one involving the principle of self-hypnosis to promote absolute concentration."

Bill will tell you, himself: "As for secrets—I don't think we have any. It's just deep concentration!"

I would say that it paid off, wouldn't you? . . . Don't discount the value of the advice to "hypnotize yourself" if you have difficulty giving your entire attention and concentration to your own shooting and your own target. If your attention strays toward wondering how your competitor is doing, then you are not shooting your own best score. Many times, what you say to yourself as you prepare to shoot or while you are shooting can influence your state of mind—and your score.

One of my most unforgettable experiences was scoping Krilling and Lones Wigger shooting a team match in rough conditions. The way they do it—the coach shoots on his sighter to verify the dope, then his partner fires immediately. Those two were "having a ball", and the teamwork was superb. Their approach, their holding ability, etc., seemed so evenly matched and harmonious that it is interesting to observe the similarity in their string of victories since that time (2 years ago). As Wigger became 1963 National Prone and Position Champion, Krilling was the National International Champ and English Match Champion that year.

At the 1964 Olympics, Lones W. Wigger, Jr., was proclaimed the greatest rifleman in the world with the smallbore rifle. (For clarification, that was International shooting). Now, his team partner has produced the ultimate in prone shooting on the conventional target.

If I may be permitted a couple of observations—(1) teamwork is an important factor in the success of the service shooters. They not only learn from each other, but as one hits the top, so does the quality of shooting improve for the team as a whole. They

(Continued on Page Seventeen)



300 METER GOLD MEDAL WINNER CHOOSES SIERRA BULLETS



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*Sierra Bullets extends congratulations to the fine team of shooters who represented the U.S.A. at the Tokyo Olympics 1964. Special tribute and admiration is offered to the gifted young athlete who won the most exciting competition of Olympic shooting, the 300 meter.

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WHAT ABOUT RIFLING TWISTS?

By Phil Teachout

This will be a groping for answers. Rifling twists is a subject that I am interested in but know, for sure, too darned little about. I hope this may stir up discussion and information that will be helpful to me, and to others like myself. Any personal experiences reports or observations I may mention will be of a questioning nature, because I am not at all sure that my "guessing" at cause and effect are anywhere near correct.

A few years back, in Precision Shooting, Harvey Donaldson was advocating slower twists in rifle barrels, claiming better accuracy and higher velocity with the same powder charges in the slower twists and, at least in one case, he claimed higher velocity with a smaller powder charge in a slower twist. I have no basis for disputing that latter claim, but I never did quite swallow it.

Something like a year or so ago, in discussing bullet stability in flight, Fred Hallberg mentioned "revolutions per minute" (RPM rate) as a factor to be considered. That seemed to make sense to me. We have been told that the revolution rate of a bullet did not decrease appreciably in its flight from rifle muzzle to target, even at long ranges. That is, if fired from a barrel having a twist of 1 turn in 12 inches, the bullet will continue to make one revolution for each foot of forward travel. That would be true at any velocity. However, bullet velocity (of forward travel) would affect the RPM rate. That is, with higher velocity over a given range, and shorter flight time, the bullet would make its constant number of revolutions in a shorter time and therefore the RPM rate would be increased.

The recent success of competitive benchrest shooters using .30 caliber rifles, chambered for the .308 Win cartridge and with barrels having a 14 inch twist further whetted my interest in this subject. That 14" twist was unusual in .30 cal. rifles. This leads me to more careful consulting of Dr. Edgar L. Eichhorn's tables for "Optimum Twists for High-Powered Rifles" in the Number 6 Speer reloading manual.

Dr. Eichhorn's tables were constructed from calculations carried out with the aid of a modern computer. There is undoubtedly a margin both above and below the optimum twist which will give reasonably satisfactory bullet stability and resulting accuracy. Some points indicated from these tables, plus experience observation, are:

It appears that twists for our manufactured rifles are adopted to surely stabilize the heaviest, longest bullets commonly available and loaded for any given caliber. That is sensible from the manufacturer's point of view but, for some calibers, perhaps not so good for the range of bullets most commonly used.

For any given caliber, the higher the velocity at which a given weight bullets is fired, the slower the twist may be. This indicates the influence of the RPM rate. For .30 caliber 165 grain pointed bullets the optimum twist at 2000 fps (mild 30-30 load) is 12 inch and at 3000 fps is 14 inch. The load most used by the bench rest shooters in the .308 Win. case is 48 grs. H-380 with the Sierra 168 gr. International bullet, which probably gives a velocity of a little over 2600 fps for average; the listed optimum twist for that load would be 13.2 inch. This might indicate that the Eichhorn tables should best be used as a guide, only.

The lighter bullets in any given caliber are likewise the shorter bullets in that caliber. For the lighter, shorter bullets in any given caliber, the listed optimum twist increases. For example, the maximum listed

loads for the 110 gr. bullet in the .308 Win. case are in the 3200 fps velocity range and the listed optimum twist is 21.7 inch (most .308 Win. sporter and target rifles have a 12 inch twist).

The listed (and commonly used) twist increases in length as the bullet diameter is increased. This is logical since the optimum twist seems to be governed by the relationship of weight (length) and diameter. Also, the speed of the circumference of a .50 cal. bullet would be twice that of a .25 cal. bullet revolving at the same RPM rate and (if I am not entirely wrong) that should aid stability at a lower RPM rate.

The study of these optimum twist tables has, I think, given me at least partial understanding of some of the experiences I have had.

I like to monkey with light reduced loads (4759 and 2400 powders) and jacketed bullets, and have obtained good accuracy results in .30 caliber rifles with bullets in the 125 to 150 gr. range at quite low velocities, and nearly as good in .25 cal. with bullets in the 85 gr. range. But I have never gotten satisfactory accuracy with 50 or 55 gr. bullets in 14 inch twist .22 cal. barrels until I used charges that gave probably 2000 fps velocity or more. From study of the Eichhorn tables it appears I would need to use 40 gr. or at most 45 gr. bullets to get what I want. I'll have to try that.

A few winters ago I did considerable monkeying with making light bullets (very short lead cores) in relatively long jackets. I made some 60 gr. .25 cal. bullets in .860 inch long jackets, the top of the lead core being little if any forward of midway of the jacket length. The bullets were shot in a .257 Roberts rifle with 14" twist. With 45 grs. of 4064 powder the bullets gave normal accuracy for that rifle out to 300 yards range, and the load was chronographed at 3720 fps. But when I started to experiment with reduced loads with this bullet I had to go up to 18 grs. of 4759 to get satisfactory accuracy at 100 yards, and this load chronographed at 2484 fps velocity. It took a high RPM rate to stabilize this badly unbalanced bullet. (This experience was reported in full in March 1962 P. S.)

In .30 caliber, 110 to 130 gr. bullets at top velocity for the cartridge for flat trajectory and fast expansion at moderate ranges are favored varmint shooting loads. Some 125 gr. bullets I make in .924 inch long jackets, fired with a charge of 48 grs. of 3031 in my .308 rifle with 12" twist (for a probable velocity of about 3150 fps) gave an average of 1.373" for four 5-shot groups at 100 yards. With 44 grs. 3031, six 5-shot groups at 100 yds. averaged 1.385". Cutting the charge to 41 grs. of 3031, fourteen 5-shot groups at 100 yds. averaged .990"—seven of the groups were over 1 inch and 7 were under. A peewee load of 15 grs. 4759 with this same bullet gave 5-shot groups under an inch at 100 yds. The Eichhorn listed optimum twist for a 130 gr. pointed bullet at 3200 fps muzzle velocity (approximately that of the top load with my 125 gr. bullets) is 18.2 inch, and at 2000 fps velocity, 15.3 inch.

The above makes me wonder if potential accuracy may be sacrificed, more frequently than realized, by using the very top velocity loads with the light bullets. I'm rather sure that that need not be necessarily so in all cases. Experimenting will provide some of the answers to specific problems. I think the above does indicate that a certain amount of beneficial RPM rate control may be obtained by selective loading.

There are probably plenty of flaws in the foregoing. I'd appreciate having them pointed out, with the whyfores and corrections explained.

FROM AN EARLIER DAY

The photo on the opposite page is of the firing line and competitors at the first Mid-Winter Smallbore Rifle Tournament at St. Petersburg, Florida some thirty-odd years ago. The treasured photograph, somewhat yellowed with age, was supplied by Betty Summerall Duncan.

Second from the left is Betty Summerall, standing beside her father, William Summerall (in the dark suit). Bill Summerall was a member of an early Pershing Trophy Team which competed for the trophy in England.

The St. Petersburg shoot became known as the "National" Mid-Winter Smallbore Tournament. Usually held in early March, it became the most important smallbore rifle event of the winter season and drew top-ranking smallbore riflemen from all over the country, as well as many lesser riflemen who looked forward to it as an annual winter vacation. The tournament was not held in a few recent years but was revived this year (1965) as a prone and position event.

The photo will bring nostalgic memories to some old-timers among our readers. To the younger generation of shooters it portrays some of the equipment in common use thirty-odd years ago.

Those long draw-tube telescopes on their saw-horse leg stands were the available equipment for spotting one's shots at that time. They were a nuisance to set up, and once aligned on the target the shooter adapted his position to fit the scope, rather than present day practice on paved firing lines of getting one's position and then moving the scope to a position for comfortably seeing through it.

Smallbore firing lines of that early day were just that—a line of numbered stakes with a fairly smoothly graded area behind them for the shooter to lay on. If the sun shone hot, you broiled—if it rained, you soaked. Few successful smallbore matches are held today under such conditions.

METROPOLITAN RIFLE LEAGUE

MATCH

The Metropolitan Rifle League's Spring Double Individual Rifle Match was fired on the 100 yard indoor rifle range at the II Corps Armory in Brooklyn, New York, March 28th, with 61 riflemen competing. The program consisted of two 40 shot matches with smallbore rifles and an aggregate of the two matches.

Thirteen fired 400 possible scores in the first match and seventeen fired possibles in the second match. Five high scorers in the first match were Carl Johnson 400-37x, Edward Clausen 400-33x, A. Marino 400-33x, Harold Slocum 400-30x, and Douglas Fuller 400-30x. High 399, R. Triggs, had 34 X's.

Five high in the second match were Ransford Triggs 400-37x, Walter Tomsen 400-34x, Lloyd Norton 400-33x, Laurence Moore 400-33x, and Douglas Fuller 400-32x. High 399, A. Rosenblatt, had 36 X's.

Scoring possibles for the two-match aggregate were Walter Tomsen 800-64x, Douglas Fuller 800-62x, J. Maher 800-59x, Edward Clausen 800-55x, and H. Swarts, Jr. 800-55x. The top four firing 799 aggregates had X-counts equaling or exceeding that of the match winner. They were R. Triggs 71, Carl Johnson 67, A. Rosenblatt 65 and Lloyd Norton 64.

P. H. T.

MAY 1965



National Bench Rest Shooters Association, Inc.

1965 BENCH REST MATCHES

(CLASS ABBREVIATIONS: Bench Rest Rifle—BRR (Unrestricted rests Un. Restricted rests Re.). Heavy Varmint—HV. Light Varmint—LV. Sporter class—Sp.)

EASTERN REGION

Augusta, Ohio: July 3 and 4 (BRR—Un and HV); September 18 and 19, Eastern Region Bench Rest Rifle (Un) Championship. Reed's Run Rifle Range, P. O. Box 66, Augusta, Ohio.

Easton, Ohio: May 8 and 9 (BRR—Un and HV, 200 yds. and 300 meters); May 29 and 30 (Ohio State Championship, BRR—Un and HV.); July 17 and 18 (Eastern Region Championships, HV, LV and Sp.). Chipewa Rifle Club, Inc., S. A. Buchtel, Sec'y, 210 W. Chestnut St., Wauseon, Ohio.

Wapwallopen, Pa.: May 22 and 23 (BRR—Un and Re, and HV); June 26 and 27 (BRR—Un and Re, and HV.); August 28, 29, 30 and 31 (National Championships, Bench Rest Rifle, Un and Re rests). Council Cup Rifle Range, c/o Robert W. Hart, 332 Montgomery St., Nescopeck, Pa.

Fassets, Pa.: June 5 and 6; July 24 and 25 (Pennsylvania State Championship); and October 2 and 3. All matches for HV, LV and Sp classes. South Creek Rod & Gun Club, c/o Gerald Arnold, R. D. #2, Gillett, Pa.

Johnstown, New York: June 12 and 13 (BRR—Un and Re, HV and LV classes); September 3, 4 and 5 (National Championships, HV, LV and Sp classes). Pine Tree Rifle Club, Inc., c/o Edward J. Sweeney, 501 North Market St., Johnstown, N. Y.

Canton, Ohio: June 19; July 10; August 7 and September 25 (all matches for Heavy Varmint class only, and all matches start at 2:00 P. M. and continue under lights in evening). Canton-McKinley Rifle Club, c/o R. H. Johnson, 3118—11th St. S. W., Canton, Ohio.

Charlotte, North Carolina: July 31 (100 yds.) and August 1 (200 yds.); North Carolina Championship—Heavy Varmint class. Charlotte Rifle & Pistol Club, William Griffin, Sec'y, 5220 Robinhood Road, Charlotte, N. C. 28211.

MID-CONTINENT REGION

Tulsa, Oklahoma: May 16 (day), June 20 (day), July 17 (night), August 21 (night), September 19 (day)—all matches for BRR—Un and HV. Tulsa Bench Rest Rifle Club, c/o R. G. Berry, Pawnee, Oklahoma.

Wichita, Kansas: Mid-Continent Regional Championships—May 29—11 AM, HV, LV and Sp classes; May 30—11 AM, BRR—Un class; October 2—4:30 PM (BRR—Un and HV). Wichita Bench Rest Rifle Club, c/o Henry W. Barton, 1841 S. Chautauqua, Wichita, Kansas 67211.

Kansas City, Kansas: July 3 and 4—day and night (Speer 4th of July match and Kansas State Championships—all classes); August 7, 4:00 PM (BRR—Un); September 25—4:00 PM (HV class); October 16—4:00 PM (BRR—Un). Mill Creek Rifle Club, Inc., c/o L. F. Carden, 5022 Waverly, Kansas City 4, Kansas.

Colorado Springs, Colorado: July 24 and 25—day (BRR—Un class). Frontier Gun Club, Inc., Sam Fisher, Sec'y, Box 534, Colorado Springs, Colo.

MISSISSIPPI VALLEY REGION

St. Louis, Missouri: May 8 (Sp and HV—10 AM and 4 PM) and May 9 (BRR—Un and Re—9 AM); June 26 (BRR—Un and Re—10 AM and LV 4 PM) and June 27 (HV—9 AM); Miss. Valley Regional Championships, October 2 (LV and BRR—Un

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and Re—8 AM and 1 PM) and October 3 (HV and Sp—9 AM and 1 PM).

NON-REGISTERED SHOOTS: July 18 (Hunting rifle); July 25 (Varmint hunters); September 12 (Hunting rifle); September 26 (Varmint hunters). Bench Rest Rifle Club of St. Louis, Larry Kuenz, Sec'y, 2912 Lincoln St., St. Louis, Mo. 63121.

GULF COAST REGION

Abilene, Texas: May 29 (BRR—Un) and May 30 (HV class); July 17 (Sp class) and July 18 (LV class). West Texas Sportsman's Club, c/o John D. Richardson, 2660 Roundtree, Abilene, Texas.

Midland-Odessa, Texas: Gulf Coast Region Championship Tournament, July 2 (Sp class), July 3 (LV class) and July 4 (HV class).

PRESIDENT'S CORNER

I am pleased to announce that Al Angerman has accepted the job of Measuring Committee chairman. His address is:

A. H. Angerman
2528 Deepwood Drive
Wilmington, Delaware 19803

On behalf of the past and present officers and directors, I want to thank Arthur J. Freund, past chairman of this committee, for his devoted service. It was with deep regret that N. B. R. S. A. accepted his resignation, forced by the pressure of his other duties.

I have just attended the annual stockholders meeting of Precision Shooting Inc. in Bennington, Vermont. The details of format, joint policy and a joint editorial review board for the new series of articles has been hammered out. The first phase "History" will begin in this May issue.

The first experimental targets designed for informal benchrest competition are now available. Write to me for samples and details.

Rulebooks @ 50¢ apiece are available from Bernice McMullen. These are the currently revised and applicable rules governing 1965 competitions.

I am convinced no one reads this column. I reported 1052 members as of March—we now have a gain of 3 to 1055 as of April. Get going and get that new member now!

You haven't done a thing about it! Right now I'm depressed—give me a lift—Help N. B. R. S. A., Inc.—it's your baby—get that new member!!!

Cordially yours,

Brunon V. Boroszewski

Permian Basin Rifle & Pistol Club, Inc., James Fitz-Gerald, Sec'y, P. O. Box 459, Midland, Texas.

NORTH CENTRAL REGION

Iowa Falls, Iowa: May 22 (Sp—night) and May 23 (HV—9 AM); June 26 (HV—night) and June 27 (Sp—9 AM); July 31 (Sp—night) and August 1 (HV—9 AM); September 11 (HV—night) and September 12 (Sp—9 AM). Iowa Falls Gun Club, Lee R. Boddy, Sec'y, Iowa Falls, Iowa.

Buffalo, Wyoming: July 10 and 11 (BRR—Re and HV classes). Non-Registered matches: August 20 (Sporter match); September 26 (Hunter match). Buffalo Outdoor Rifle Club, C. C. Hankins, Sec'y, P. O. Box 151, Buffalo, Wyoming.

NORTHWEST REGION

Seattle, Washington: June 19 and 20 (BRR—Un and Re, HV and LV classes); July 25 (100 yd. BRR—Un and Re); August 14 and 15 (BRR—Un and Re, HV and LV classes). Puget Sound Bench Rest Rifle Club, Inc., John Sparrow, Sec'y, Rt. 1, Box 769, Auburn, Wash. 98002.

SOUTHWEST REGION

Yreka, California: May 29 and 30 (BRR—Un and Re, HV and LV classes); September 4 and 5, Fourth Annual West Coast Championship (BRR—Un and Re, HV and LV classes). Yreka Rifle Club, programs from Ray E. Jones, 508 Knapp St., Yreka, California.

Bench Rest Match Reports

FIRST OF SEASON AT SEATTLE, WASH.

The first of the Puget Sound Bench Rest Rifle Club shoots for the season, on March 13th, had to compete with a fine day, perhaps there would have been more fellows out if it had rained.

The matches were for Heavy Varmint and Light Varmint classes and all shooting was at 100 yards range. The top ranking aggregates were:

HEAVY VARMINT CLASS

Roy Norman	.3686
Ed Frombach	.3930
Allen Bench	.5566

LIGHT VARMINT CLASS

Ed Frombach	.4208
Allen Bench	.5690
Roy Norman	.6484

Small group with Heavy Varmint rifle was .146" by Ed Frombach, and with Light Varmint rifle .311" by John Sparrow.

A FLY SHOT match, at 100 yards with any Varmint Rifle for a possible score of 100 points was shot. Several shooters had never shot at flies before and they found them somewhat more difficult to hit than they had expected. The high scores were by Roy Norman 97, Ed Frombach 93 and John Swick 78.

John Sparrow

SEASON OPENER AT ST. LOUIS

The St. Louis Benchrest Rifle Club held the first registered heavy varmint match of the 1965 season on March 28. This match was not advertised widely because we wanted a chance to get any bugs out of our match procedure before our first weekend shoot on April 10th and 11th. We are anticipating many visitors this season and we truly want to show them a good time at the bench. We had a very windy day, but the "64" National Varmint Champion TOM GILLMAN, from Hot Springs, Arkansas came through in Champion style to win the match.

The Winners—Heavy Varmint Class

100 yard agg.	
Tom Gillman	.3278
A. M. Freund	.3788
Don Hill	.4394
200 yard agg.	
Don Kramer	.4979
Don Hill	.5361
Tom Gillman	.5676
National Match course	
Tom Gillman	.4475
Don Hill	.4877
Don Kramer	.5077
Smallest groups	
Don Hill 100 yd.	.220
Tom Gillman 200 yd.	.431

Gillman shot his 22 Tomcat which is an improved .222 mag. He used a Hart barrel, his own action and stock, with Sierra 53 gr. bullets. His load was 30 gr. 4320. Tom tells us this combination does a bit better than 3500 F.P.S.

Hill used his .223 Hill which is made by pushing back the shoulder of the .222 mag. case to make the body size of the standard .223, leaving the neck the full length of the remaining brass. This rifle is a Hart barrel, Weber action with gunsmithing by Gillman and stocking by Hill. Load was 27½ gr. B. L. C. #1, behind 53 gr. Ross Sherman 7 S bullets made by the shoot-

(Continued on Page Twelve)

HISTORY OF MODERN COMPETITIVE BENCH REST RIFLE SHOOTING

By P. H. Teachout

Part 1: ORGANIZATIONS

Shooting rifles from some sort of solid rest to determine the full accuracy potential of the rifle and ammunition is far from new. Testing rifles from rest was common for the famous shooters and rifle makers of the muzzle loading percussion-lock era and, I believe, was used at least to some extent with the rifles of the earlier flint-lock era. Testing rifles from some type of bench rest was commonplace for the experimenters and famous shooters of the metallic-cartridge black-powder rifles of the late 19th and early 20th century, with some competitive bench rest matches held and reported in early shooting journals of that period.

However, organized competitive bench rest rifle shooting as we know it today had its beginning following, and as a result of, the development of smallbore, high velocity rifles of superb accuracy during the 1930's.

The earliest of the modern bench rest competitions to receive rather wide publicity and attention were conducted at Seattle, Washington, in 1944. In the first edition of the book, "The Ultimate In Rifle Precision," (year 1949, chapter 10, page 77) Dr. Rod Janson of Seattle wrote in part:

"In early 1944, a group of us were discussing shooting, especially bench rest shooting. It was proposed that a club be organized for the purpose of promoting this art. There were two purposes in mind; first to actually find out how accurate certain highly tooted rifles were, and second, to improve the equipment and components to accomplish the ultimate in accuracy."

"With these thoughts in mind the Puget Sound Snipers Congress was born. It was our hope to prove or disprove the many claims made by other enthusiastic riflemen. A match for the coming summer was agreed upon."

The match was held with 37 shooters competing, shooting rifles ranging from heavy match rifles to a 45-70 as issued. This, however, was a local area club organized to hold one match a year, which it continued to do in succeeding years.

In the North-East, a few small, rather informal bench rest matches were held in 1946 and early 1947, two locations being reported at Machias, New York, and at Taftsville, Connecticut. Then, under the leadership of Harvey A. Donaldson and other members of the club, who had attended some of these earlier matches, the Pine Tree Rifle Club of Johnstown, New York, constructed a new range with ten shooting benches and made plans for conducting a match over Labor Day weekend, 1947. Mr. Donaldson, who started his shooting career in the 1890's, had the background of long experience and a wide acquaintance among leading experimenters and shooters of the later black-powder years as well as the developers of the small caliber smokeless-powder rifles of superior accuracy, which he put to good use in promoting this first large benchrest match in the North-East. He also had a vision of a national organization for benchrest shooting. The match was held on August 30, 31 and September 1, 1947 with about 25 shooters attending.

Again quoting from the first edition of "The Ultimate In Rifle Precision" book (1949 edition, pages 3 and 4) Harvey Donaldson writes:

"Having been instrumental in gathering these riflemen together, I felt that the time had arrived to put my long dormant idea of a National Association of Bench Rest Shooters, in motion. With this in mind, I talked it over with many of those in attendance, who one and all agreed, that we should start something, and that now was the time for it."

"With the full consent of all the riflemen on the range, a meeting was called on the evening of the Sunday before Labor Day of 1947, for the express purpose of forming The Bench Rest Shooters' Association."

Ray Biehler of Rochester, N. Y., was named the chairman of this meeting, and ways and means were discussed for getting the Association started and under way. Harvey Donaldson was elected its first President, Col. Townsend Whelen was elected Vice-President, Frank E. Hubbard, St. Johnsville, N. Y., Secretary-Treasurer, and Sam Clark, Jr., Oakland, Maine, Executive Officer.

Again quoting: "The aims and object of the Association was voted to be the advancement of experimenting through bench rest shooting, in order to improve the performance of various rifles, both in match and varmint shooting, along with the components and other accessories; to obtain the utmost in rifle accuracy; and to force the improvements in rifles and ammunition through individual experimenting."

Provision was also made at this meeting for the holding of a winter planning meeting in January of each year to plan an activity program for the year and to discuss changes and improvements that seemed needed. It was also voted to hold a match on the Pine Tree Rifle Club grounds on each following Labor Day weekend.

The first winter planning meeting was held in Johnstown, N. Y. in January 1948 and a printed report of that meeting was sent to each member.

This writer has no record available of a meeting of the Association members at the 1948 Labor Day Match at Johnstown, N. Y., but it is evident that if such a meeting was held that the original officers were re-elected to serve for a second year. Neither does the writer have any record of a winter planning meeting in January of 1949, but it is believed that such a meeting was held.

Announcement of the first edition of "The Ultimate In Rifle Precision," called the 1949 Yearbook of the Bench Rest Shooters' Association, was made in April, 1949, as expected to be off the press sometime in May. The book was edited by Townsend Whelen and published by the Sportsman's Press in Washington, D. C.

The 1949 annual meeting of the Association was held on the range of The Pine Tree Rifle Club, Johnstown, N. Y., on Sunday evening, September 4th. Joel G. Hodge of Schenectady, N. Y., was elected President; Col. Whelen re-elected Vice-President; and William Van Nostrand, Gloversville, N. Y., was elected Secretary-Treasurer. The magazine SHOOTERS NEWS was designated to serve as official news publication for the Association; the magazine to provide space for the news in each monthly issue, and the Association to purchase subscriptions for each of its members. The Association annual dues were increased one dollar to cover the subscription cost.

The 1950 winter planning meeting was held at the Pine Tree Rifle Club clubhouse, Johnstown, N. Y., on January 28th and 29th with 26 members present. Secretary Van Nostrand reported that the membership then totaled approximately 300 and represented nearly all sections of the United States. Groups in several sections had organized and had held or planned to hold matches in 1950. It was recognized by the members present that there was no provision for uniformity of course of fire, targets or shooting rules in use. After discussion, they authorized the President to appoint two committees, one for Promotion and the other for Standardization. It was voted "To contact as many of the groups throughout the country as possible through the SHOOTERS NEWS."

(To be continued)

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SHOOTING & HUNTING SUPPLIES
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Bench Rest Match Reports

(Continued from Page Eleven)

er. It is interesting to note that both the Gillman and Hill rifles were chambered so that no case neck re-sizing is necessary.

Kramer shot a Hart barrel installed by Clyde Hart on a 722 action stocked by Kramer. Load was 30 gr. B. L. C. #1 behind 53 gr. Sierra bullets. All three rifles were bedded in Devcon "F." Freund shot a Shillen action, Hart barrel combination, gunsmithing by himself. It was chambered for 219 Don. Load was 28½ gr. B. L. C. #2 behind his own 51 gr. bullets.

Donald W. Hill

WICHITA, KANSAS

The first matches of the year held April 10th by the Wichita Bench Rest Rifle Club had an excellent turnout with 16 shooters in the Heavy Varmint class and 13 shooters in the Unrestricted Class. The matches started at 4:45 PM with a quartering tail wind of 22 mph with gust to 28 mph. After the sun went down, conditions improved somewhat but continued to be tricky.

Larry Engelbrecht shooting a .222 on a Remington action with a Hart barrel placed 1st at 100 yards in the Heavy Varmint class with a .3910". At 200 yards Larry aggregated .3386" for first place and 1st grand aggregate of .3648". He also took small group honors at 100 yards with a .254" and at 200 yards with a .287". 2nd place grand aggregate went to Red Cornelison with a grand of .4498", 3rd place to John Bushnell, a relative new-comer to bench shooting with a .4629", and the 4th place trophy went to John Zogar with a .4633". Bushnell and Zogar were shooting .222's, Cornelison was shooting his "Red's 220."

(Continued on Page Fourteen)

BULLET SPINNERS PAST AND PRESENT

By Gene Beecher

Over twenty years ago that master tool and gauge maker, Mr. L. E. (Sam) Wilson, made a very good bullet spinner for his own use, that held the bullet between ball bearings with a dial test indicator for concentricity testing.

Then there was the "Westniter" spinner which was somewhat different in that the bullet rested on rollers and by means of a bright overhead light the shadow cast by the bullet gave evidence of error.

Most present day spinners are variations of the above which support the bullet on its form axis for detecting eccentricity provided the bearings used themselves do not contain any error.

Due to the writer's method of forming bullets (See U. S. Patent No. 2,821,099) the need for a concentric bullet spinner was never considered. However, an instrument that would show wobble at the point of the bullet was very much desired for my own use and which I called a "wobbler."

Dr. Mann has shown that an unbalanced bullet goes into oscillation around its center of gravity after leaving the muzzle and it is this oscillation that is made visible on the test indicator of the present "Wobbler" (See illustration).

The rigid non-moving bearing surfaces form a Vee way support just back of the center of gravity under the bullet being tested and just ahead of the so-called pressure ring.

The first "Wobbler" I made was not held in a vise and did not have a hard rubber regulating roller but was only two pieces of ½ drill rod made as shown in the illustration and a .0001" dial test indicator. This simple basic device was clamped on the edge of a bench and the bullet was rotated by pressure of the forefinger. For the shooter who wants a relatively cheap but good test "Wobbler" any good gunsmith can machine the rods as shown.

For 30 caliber bullets a spacer between the rods to obtain the proper Vee ways can be used, and the indicator clamped in the forward position. Hard chrome plating may be preferable to hardening the rods.

To obtain the approximate center of gravity of the bullet in the "Wobbler" simply push the adjustable stop against the base of the bullet until it tips over.

Elmer's Glue was used to keep the bullet in position for photographing.

For those wanting refinement such as appears in the illustration, a couple of ¾" square cold rolled steel bars for attaching the swinging regulating roller are required.

A handle for lowering and raising the roller is not necessary but is very convenient.

A spring or rubber band, not shown, enables constant pressure of the roller on the bullet.

The diameter of the roller shown is such that only one-half revolution turns the bullet four times.

The axis of the roller mounted on a small ball bearing is set at an angle to the axis of the bullet to cause the base of the bullet when rotated to press lightly against the centrally located adjustable pointed stop.

When the axis angles are properly set the roller is rotated only in one direction but if reversed the bullet will travel forward away from the stop.

A small vise purchased in a hardware store for about \$5.00 makes a substantial base for the outfit.

On many purchased and homemade bullets that did not show very much eccentricity it was amazing the magnitude of wobble that registered on the indicator.

Make yourself a "Wobbler" and see if your bullets wobble about a bit.



Winners at the early St. Louis benchrest match. Standing, left, Don Kramer, third place, and Don Hill, runnerup. Center, sitting, is Tom Gillman, aggregate winner.



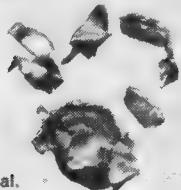
HORNADY VARMINT BULLETS DEADLY AT ANY RANGE

*The ultimate test of a varmint bullet
is its long range effectiveness!*

VARMINT BULLET EXPANSION TESTS

222 Cal. 300 Yd.
Vel. = 1750 fps

HORNADY



222 Cal.
300 Yd. Vel.

Bullet A



222 Cal.
300 Yd. Vel.

Bullet B

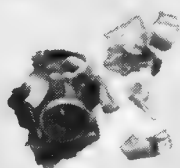


222 Cal.
300 Yd. Vel.

EXPANSION TESTS IN SEARCH OF BULLET PERFECTION

257 Cal. 300 Yd.
Vel. = 2190 fps

HORNADY



257 Cal.
300 Yd. Vel.

Bullet A



257 Cal.
300 Yd. Vel.

Bullet B

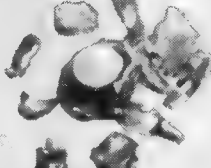


257 Cal.
300 Yd. Vel.

TESTS PROVE HORNADY BULLET EXPANSION!

270 Cal. 300 Yd.
Vel. = 2340 fps

HORNADY



270 Cal.
300 Yd. Vel.

Bullet A



270 Cal.
300 Yd. Vel.

Bullet B



270 Cal.
300 Yd. Vel.

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Bench Rest Match Reports

(Continued from Page Twelve)

The Unrestricted class was a good battle all the way. At 100 yards Bud Carden shooting his rifle as a limited class rifle was 1st with a .4056" and shot small group with a .194". At 200 yards, Bill Starks, who had been 6th at 100 yards, got the bit in his teeth and ran off with 1st place at 200 yards and grand aggregate honors with a grand of .4141". Bill was shooting a .222 on a Remington-Bellows action and Hart barrel. Henry Barton was 2nd at 100 yards with a .4116", 3rd at 200 yards with a .4242" and 2nd grand aggregate with a .4179". Bud Carden was 3rd with a .4372" grand and Walt Berger placed 4th with a .4547". Small group trophy at 200 yards went to Rick Hornbeck with a .503".

Equipment data was as follows:

Heavy Varmint: 11 .222 Rem.
2 .222½
1 .22-250
1 Red's 220
1 Powers Spec.
Unrestricted: 8 .222
1 .222 Mag
1 .22/45
1 .219
2 .308

21 rifles used Hart barrels, 5 were Douglas, 2 Day, 1 Remington. Scopes, 19 Unertl, 5 B&L, 4 Lyman, 1 Litsch. Primer, 11 RWS, 14 Remington, 2 CCI, 1 Fed. Powders, 21 Ball C, 3 H-380, 1 4895, 1 3031, 1 7122, 1 H-335.

ST. LOUIS, MISSOURI

The St. Louis Benchrest Rifle Club held their first weekend tournament on April 10th and 11th. These 3 class weekend shoots are being held to give out of state shooters a worthwhile amount of shooting for their traveling. On Saturday morning 10 A. M. the Heavy Varmint class match was shot in a strong wind of from 20 to 30 miles per hour. There were many good groups even in the strong wind. Seventeen shooters competed with only one disqualification. Sporter class started at 4 P. M. with eleven competitors shooting. Shooting of the 200 yd. aggr. was done first during daylight and the 100 yd. aggr. was shot under the lights. The wind became more of a problem after dark instead of dying down as is usual. Five out of the eleven shooters disqualified in the Sporter Tournament. Sunday dawned bright and considerably warmer with winds of 10 to 20 miles per hour. Ten shooters looked forward to a better day of shooting, but this was to prove the calm before the storm. We caught some of the strongest winds any of the shooters had ever tried to shoot in. The weather bureau said 50 miles per hour. Tom Gillman of Hot Springs, Arkansas, who probably shoots twice as much as any one else said he had never tried to shoot in anything like it. Instead of trying to shoot a good group at 200 yds., the trick was to just stay within the border lines of the target.

HEAVY VARMINT CLASS

	100 yd. agg.	200 yd. agg.	grand agg.
Don Hill	.338	.514	.426
Tom Gillman	.431	.493	.462
A. M. Freund	.459	.504	.481

SMALL GROUPS

	100 yd.	200 yd.
Don Hill	.202	
Larry Beard	.551	

SPORTER CLASS

	100 yd. agg.	200 yd. agg.	grand agg.
A. M. Freund	.589	.672	.630
Phil Broderick	.645	.702	.673
Bob Nellsen	.739	.780	.759

SMALL GROUPS

Phil Broderick	100 yd.	.399
Phil Broderick	200 yd.	.862

LIGHT VARMINT CLASS

	100 yd.	200 yd.	grand agg.
Don Hill	.493	1.126	.809
Larry Beard	.465	1.308	.887
A. M. Freund	.628	1.476	1.052

SMALL GROUPS

M. H. Jones	100 yd.	.212
Tom Gillman	200 yd.	1.321

In heavy varmint class, Don Hill used a Weber Action, Hart barrel chambered for 223 Hill. Tom Gillman shot his own action, Hart barrel chambered for his 22 Tomcat. A. M. Freund shot a Shilen Action Hart barrel, 219 Don. In the Sporter class, A. M. Freund shot a 722 action with Douglas Barrel. Bob Nellsen shot his 6 M. M. Williams in a Springfield action with Douglas Barrel. In light varmint class Don Hill shot his 223 Hill in a Shilen action with Hart Barrel. Larry Beard shot a .222 in a Hart action with a Hart barrel. A. M. Freund shot a 219 Don, in a Model 70 Action with a Holmes Barrel. Shooters from four states participated in the two day shoot.

NEW AGGREGATE RECORD

A new record certificate has been issued to Paul Gottschall, Salem, Ohio for a Heavy Varmint Class 200 yard aggregate of .2970 MOA. This new record aggregate was fired on the Canton-McKinley Rifle Club range at Canton, Ohio on July 18, 1964.

Paul's equipment was a 222½ cartridge, Shilen action, Hart barrel 26 inch long, 1¼" to .800", with 1 in 14" twist, weight 13¼ lbs. The rifle was gunsmithed and stocked by Shilen. Scope was a 25X Lyman. Load was 22.2 grs. of 4198, B&A 53 gr. bullets and Remington 6½ primers.

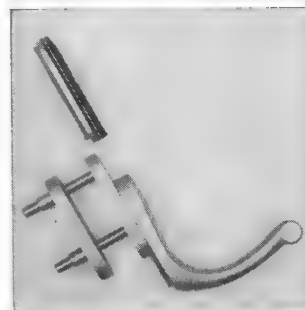
1965 SPEER BENCH REST MATCHES

The 3rd Annual Speer 4th of July Benchrest Matches will be held in conjunction with the Kansas State Championships at the Mill Creek Rifle Range in Kansas City, Kansas, July 3 & 4, 1965. The Speer Matches are an annual affair sponsored by Speer, Incorporated of Lewiston, Idaho to promote and preserve a shooting sport which has contributed so greatly to the excellence of modern sporting rifles and ammunition. Here-to-fore the annual event has been held in Lewiston, home of Speer Bullets. The Speer Company decided to conduct the tournament each year at different ranges throughout the country in order that more shooters could participate and compete for the silver trophies donated by the company. All proceeds from the matches go to the host club to benefit their range improvement and shooting promotion programs. Three classes of rifles will compete during the 2 day matches at distances of 100 and 200 yards: Unrestricted bench rifles, no restrictions as to size, weight, or type of rests used; 13½ pound heavy varmint rifles, restricted in overall weight and shot from sandbag rests, front and rear; 10½ pound sporter rifles, restricted in overall weight and also shot from sandbags front and rear. Winners are determined by the smallest aggregate group size shot during the 2 day matches. The unrestricted class will shoot 5-10 groups at 100 yards and 5-10 shot groups at 200 yards. The heavy varmint and sporter classes will shoot 5-5 shot groups at 100 and 200 yards. Besides grand aggregate winners, trophies will also be awarded to the 100 and 200 yard winners of each class as well as awards for each individual match.

FOR THE SHOOTER BY A SHOOTER

BSA

MARTINI-INTERNATIONAL



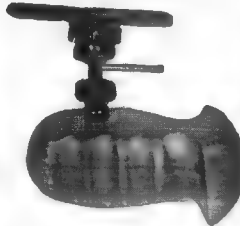
Freeland "61" International Butt Plate \$33.00

FREELAND Olympic All Aluminum Butt Plate	\$10.50
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FREELAND Butt Plate with Rubber Pad, Olympic	\$13.00
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Freeland Superior Front Sight	\$15.00
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ZIPPER Cuff, for most scopes	\$5.25
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Mid-Century Cuff, Comb. \$8.50

61-S Olympic 1¼" cuff-sling	\$6.00
Freeland tapered cuff combination #61A	\$6.75
Freeland AF55L Exceptional Leather RIFLE CASE	\$35.00
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REMINGTON 40X H2 or S2	\$154.95
WINCHESTER M70 Featherweight	\$139.95
Win. 52-D Std. or Heavy Wt.	\$145.00
WINCHESTER M70 Target	\$190.00
SHERIDAN Blue or Silver Streak	\$27.50
BROWNING AUTO-5 Standard	\$154.75
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idual match. A special Speer Bullet Match of 10 shots at 100 yards will be conducted in unrestricted and varmint classes. A large silver trophy is awarded to the winner in each class based on the smallest group shot. As well as for the Speer trophies, all shooters will be competing for the Kansas State Championship. The tournament will be conducted and regulated according to rules set forth by The National Benchrest Shooters Association and the local rules of the host club. Besides members of the staff participating, trophies will be awarded by Raymond G. Speer of the Speer company.

All interested shooting enthusiasts are invited to attend, either as competitors or spectators. The Mill Creek Rifle Range is located ½ mile east of the south Junction of Highways 7 & 10 near Bonner Springs, Kansas.

A RECORD MATCH ENTRY

The 7th Annual Modesto Gallery Rifle Championship Tournament at the Modesto Rifle Club (California) had the largest attendance the range has ever seen in its past seven years of shooting activity. Of the

118 competitors, some came from as far away as Everett, Washington.

Shooters had to keep a keen eye and a steady trigger finger because a high score of 792 was set early in the tournament by Modesto's Duane Jenner.

Again, Fergus Ward of San Francisco and Jenner were tied going into the offhand stage. However, Clifford Block, Reno, Nevada, was leading the group by one point. Clifford ran into a little trouble and ended up with a 788 to capture 3rd place honors, while Fergus took 2nd place with a 788 but a higher offhand score. Duane came through with a 195 offhand for a total of 792 to capture winning honors.

Following the winners were Masters Ken Cummins 787, Harry Littell 786, William Hoyer 786, high Expert Ernie Sisco 780, high Sharpshooter Rick Gonzales 786.

The team match was won by the Pacific #1 Rifle Team from San Francisco with a 783—Fergus Ward scoring 197, Fred Forster 196, Ken Cummins 196 and Harry Littell 194.

Besides the medals there were silver trays awarded in the aggregate in all classes. Also in the aggregate, merchandise prizes were awarded in all classes.

Duane D. Jenner



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DWM AMMUNITION FOR THE AMERICAN MARKET

(A supplied by trade "News Release")

DWM is not completely unknown to American shooters. An internationally famous German brand for almost a century. DWM stands for Deutsche Waffen und Munitionsfabriken AG.

DWM is justly famous for such ammunition developments and improvements as the reinforced jacketed bullet, the Brenneke Torpedo Ideal Bullet, the Brenneke Torpedo Universal Bullet, and other improved spitzer bullet shapes, plus achievements just too numerous to list.

Our factory is the most modern ammunition factory in the world. Every production step in the manufacture of DWM ammunition is of the most advanced engineering methods known. Impact extrusion rather than less controllable conventional blanking and cupping, automatic weighing of components at every necessary point of manufacture and induction annealing are some of the innovations used to improve control and maintain a finished product of the highest uniform quality.

Special packaging has been developed to insure that DWM cartridges reach the shooter in the same excellent condition in which they leave the factory. Every cartridge is fitted separately in a strong foam plastic block. This gives maximum protection to the exposed lead bullet tips and at the same time provides the reloader with a handy reloading block, the hunter with a rattle-free box of ammunition.

The new DWM ammunition features a new Taperlok bullet which has a thinner jacket near the exposed lead tip becoming progressively thicker towards the base. This assures fast expansion on impact and deep penetration to guarantee positive game-stopping performance. Designed specifically for all forms of North American game, it is an ideal hunting bullet.

The propellant powder is of a new formula specially developed to give maximum performance in modern sporting rifles. Here again, emphasis has been placed on obtaining the utmost uniformity and reliability.

Unlike DWM ammunition of the past, the new sporting ammunition features Boxer

primers made in America by the Cascade Cartridge Company, Inc., of Lewiston, Idaho. CCI primers have been long known for their uniformity and fast ignition even in conditions of greatly reduced temperature. The superb uniformity of the combination of powder, primer and projectile produce the most upstandingly accurate sporting center fire ammunition in the world today—DWM.

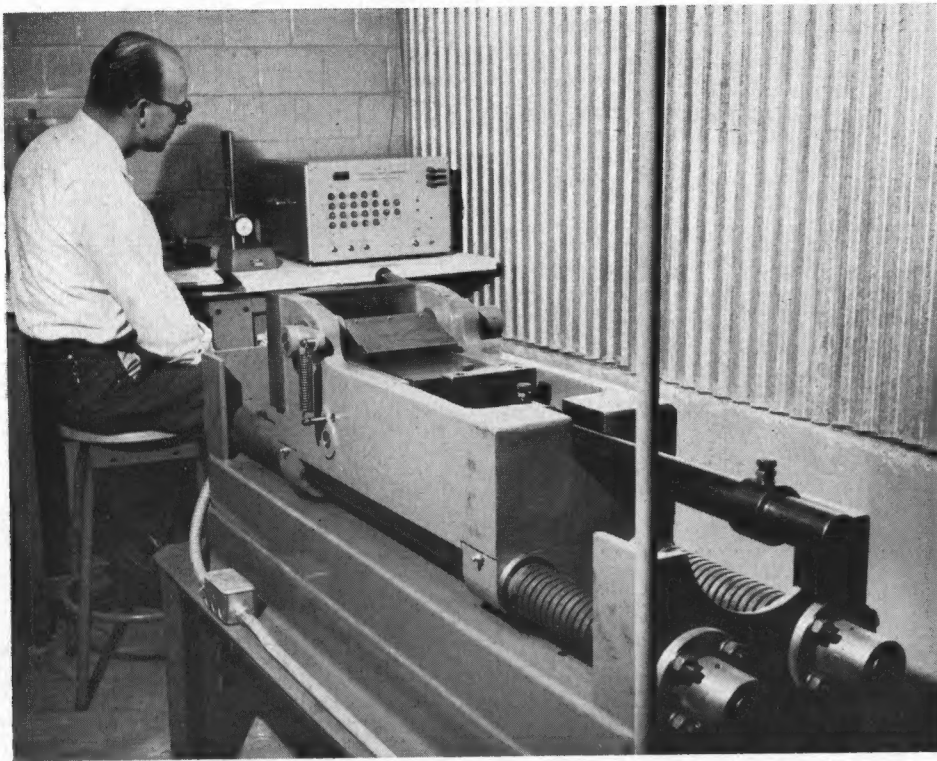
(Editor's comment: That is a pretty strong sales pitch. What seems to be new, so far as I know, is the "impact extrusion" and "induction annealing" in manufacture of the cartridge cases, and the different packaging of the ammunition. At that, if the cartridges are "fitted" in the foam block of the package, I'd question their complete usefulness as loading blocks. But I'd consider the DWM box an improvement over the common cardboard box, and probably very little, if any, more expensive.

Game bullets with thin jacket walls near the tip and thicker toward the base are not "new." All bullet manufacturers that I know of use some variation of this system to provide quick expansion and deep penetration. None that I know of are entirely infallible under every condition. If there is any one "best" bullet in this respect, I'd nominate the NOSLER partition bullet.

I'd suspect it is more practical for DWM to import a proven quality Boxer primer than to set up to make their own for a start in a new market area.

I have no intent to knock DWM ammunition—merely trying to tone-down a bit a pretty enthusiastic sales pitch. DWM is a long established, well known, reputable ammunition manufacturer and its products would be reliable, but the claim "best in the world" would be open to argument by other ammunition manufacturers.

The George E. Fairchild, Inc., P. O. Box 267, Lewiston, Idaho, will be distributors of DWM ammunition in the U. S. and Canada. George Fairchild was formerly Vice President, Sales, for Cascade Cartridge, Inc. The DWM ammunition will probably not be generally available at local dealers before late summer. Apparently only a rather limited list of the most generally popular big game hunting cartridges will be available at the start. We hope to have some of the ammo to try when it is available.)



Ted Curtis, Technical Director of the ALCAN COMPANY, checks chronograph readings in the shot-shell testing department of their Alton, Illinois plant. This precision testing equipment plays an important part in load development, recording velocities as well as vital pressure data.

Random Shots

(Continued from Page Seven)

all want to beat the champ, which generates an interesting rivalry and the necessary impetus to win. It can work for civilians, although generally to a lesser extent due to circumstances . . . (2) I believe that I have discovered why the Int'l shooters often have an advantage in the prone position. You prone shooters are trying too hard! Oh yes, you are. To the Int'l shooter, that type of shooting is his "first love." When he shoots prone, it's less strenuous than positional shooting so—he just lies down and relaxes. You don't hear all the moaning and groaning, huffing and puffing, from him that one hears from some prone shooters and especially those who are out of condition. Also, winning a prone tournament isn't nearly as important to an Int'l shooter as it is to a prone shooter; therefore, they aren't under the same pressure. Think about it.

Scores generally were fantastic at Winter Haven in that famed Florida sunshine. The Chamber of Commerce should really capitalize on that. Herb Hollister and Wigger each scored 3197. There were a couple of 3190's, and several other scores in the 3190's.

Everyone at St. Pete was a winner! All competitors received attractive lighters with National Mid-Winter Smallbore Rifle Tournament 1965 inscribed within the rings of a bull. Everyone can say, "Look what I won in Florida" and, by so doing, be a walking advertisement for the 1966 National Mid-Winters. "Visiting firemen," too, shared in the Sunshine Rifle & Pistol Club's hospitality.

It makes me homesick to read the competitor list for the 26th annual tournament. So many wonderful friends . . . and well-known shooters. There have been many improvements since the first National Mid-Winters, circa 1932—I believe you will enjoy the picture on another page—but the same congenial reception has continued to attract shooters year after year.

It is reported that on March 9th-12th "weather was beautiful and as steady as could be expected for a four day tournament. A little cool in the a. m. and warm in the p. m.—very calm in the a. m. and a little breezy in the p. m." Sounds ideal.

In that climate, Lones Wigger had clear sailing in the prone matches, winning the National Mid-Winter Prone Championship with 4785-343X over Western Wildcats Champ Herb Hollister, who scored 4780-340X. Dean DeLaMater placed third with 4779-342X, as Bill Krilling's 4770-332X was 4th.

Marilyn Kress, Caldwell, N. J., finished well in front of the Expert Class, totaling 4735-266X, and was awarded the High Lady trophy.

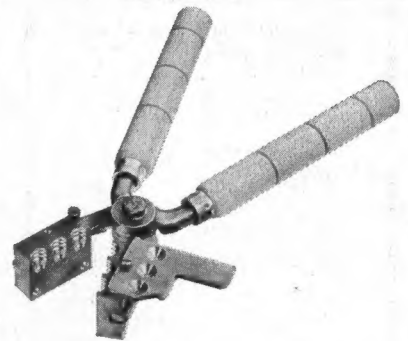
Individual metallic prone winners were—: 50-yds.: S/Sgt. D. R. Bartlett, USMC, Quantico—400-31X; Hi Civilian—Kermit Montross, W. Hartford, Conn.—400-28X . . . 50-meters: Wigger—399-33X; High Civilian—DeLaMater—399-27X . . . Dewar: Krilling 400-23X; Hi Civilian—DeLaMater—399-28X . . . 100-yd.: Wigger—398-21X; High Civilian—Harry Frietchen, Mansfield, Ohio—396-16X.

The Southeastern Smallbore Rifle Championship Trophy went to Lones Wigger for his 1594-104X in the Metallic Sight Prone Aggregate. Hi Civilian was DeLaMater with 1591-104X. Trailing were Capt. John Foster—1590-104X; Krilling—1590-93X; Timothy M. Thomas—1590-91X, 2nd Civilian from Tampa, Florida.

Nice going, Fred Triggs, in the 50-yd. any! His 400-33X Creedmoored Wigger and DeLaMater . . . At 50-meters any, Wigger took the trophy with 399-33X, as Henry Benson's 398-30X was Hi Civilian.

The Florida State Smallbore Assn. Aggregate, a 50-meter aggregate, went to a 798-66X by Wigger. Herb Hollister had the best of five 795's with an X-count of 60.

(Continued on Page Eighteen)



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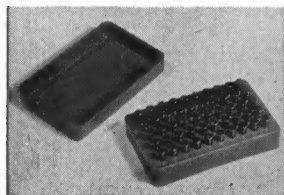
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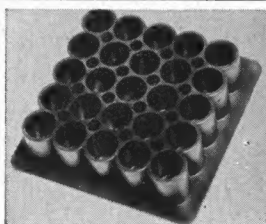
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Random Shots

(Continued from Page Seventeen)

In the Dewar any, it was a battle between two who have shot together many times in the Northwest—Hank Benson, whose 400-37X Creedmoored Wigger. Loren Samsel edged Hollister for Hi Civilian with the better 400-32X.

The Sam Bond Trophy for the Dewar Aggregate was won by Bill Krilling with the only clean score, 800-58X. Hollister was Hi Civilian with 798-57X.

Dean DeLaMater took the 100-yd. any, firing 400-34X. Hollister's 400-30X was 2nd place and Hi Civilian.

The U. S. Service Trophy for the National Mid-Winter Any Sight Prone Agg. was Lones Wigger's by virtue of his 1599-131X. Turning in 1596 scores were Hi Civilian DeLaMater—129X, Hollister—125X, Benson—125X, and Sgt. Ray Green, USMC—100X.

Herb Hollister easily won the Any Sight Metric Aggregate with 1595-117X over DeLaMater's 1592-109X and Wigger's 1592-108X . . . Kermit Montross was the winner of the 1st 50-meter match (reduced target in this interesting aggregate with a 400-36X. Wigger — 400-34X; Hi Civilian: Carlton DeHart, Hagerstown, Md.—400-32X . . . Again, at 50-meters, it was Krilling—400-36X. Hollister, Samsel, and Foster—400-35X . . .

I. S. U. Fund Aggregate victor was Foster, whose 800-67X in the two 50-meter matches led Wigger by an X.

Capt. Roger Knapper, USMC, firing 399-27X in the metric Dewar (reduced 50-meter target), was 1X ahead of Hollister . . . Bill Krilling edged Lt. Dennis Dingman at 100-meters on the reduced target—399-23X to 398-22X. Hi Civilian was Hollister—397-22X.

A 794-43X by Fred Triggs and Hugh

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J. Swarts, Jr., Drexel Hill, Pa., gave them a comfortable lead in the any sight 100-meter reduced 2-man team match. Hi Military team—Wigger and Foster—790-46X . . . Civilians—Hollister and Benson—790-43X; Sam Bond and DeLaMater—790-39X; Roy Oster, Upper Darby, Pa., and Herbert Wallace, Scranton, Pa.—790-38X.

According to Bob Sinclair, Montana produces tough competitors. They really came through for him at St. Petersburg—as if we needed convincing. While Wigger monopolized the prone department, Jack Foster wrapped up the Position Aggregate with a 788-39X score. He crowded out Wigger's 787-47X and Krilling's 787-41X. Civilian Clifford Davis, of Tampa, had a very fine 784-36X.

Speaking of Wigger and Foster, they gave quite a shot in the arm to New Jersey shooting when they gave a shooters' clinic in conjunction with the New Jersey State Gallery Rifle Championships March 20-21. Demonstrating the equipment and techniques which have enabled U. S. shooters to surge ahead of the Russians, Wigger and Foster obligingly answered questions "from the floor."

One of the most successful shoots ever conducted by the Somerset County Fish & Game Protective Association, it also produced more big names than anyone remembers seeing at a N. J. gallery shoot, including Ralston (who moved to N. J. from Indiana), Banks, Polanski, Joe Barnes, McAuliffe, Winnie Carr, Moll. Oster, Harmon, Fitzgerald, and others.

It was another victory for Wigger, as he out-X'd Foster—1191-93X. High Resident was former Air Force Captain, Frank Tetrault of Somerville, who shot an 1187, unseating defending champion, Ken Stannard.

Dorothy Yagadowski, Elizabeth, is the N. J. Woman's Champion with her 1150 score. Marilyn Kress fired 1144 to win the High Lady award.

"It may be argued that any legislation that would reduce the number of pistols in circulation would substantially reduce the number of aggravated assaults. The argument rests on two mistaken premises. First, it assumes that restrictive legislation will prevent criminals from obtaining guns. The fact is that experience has shown that legislation such as the New York Sullivan Law does not reduce the number of pistols in the hands of criminals. Second, the argument assumes that guns are used in most aggravated assaults, whereas the fact is that they are used in only a small percentage of such assaults." (Police Supt. Robert V. Murray, Washington, D. C.)

Cutting instruments, such as the knife, plus blunt objects, were used in about 70% of the 147,757 serious aggravated assaults committed in the U. S. in 1963. Only 13% of the total number was committed with firearms. (NSSF)

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SMALLBORE AT FRESNO, CALIFORNIA

There were 68 civilian and 31 service connected shooters for a total of 99 competitors in the Regional Prone Smallbore Rifle Tournament, conducted by the Fresno Rifle and Pistol Club on April 3rd and 4th.

Robert Perkins of Fresno was the grand aggregate winner with a score of 3184, shooting 1587 with iron sights on Saturday and 1596 with any sights on Sunday. William Grater from Camarillo, Calif. was runner-up with 3183, shooting 1584 with iron sights on Saturday and winning the any sight aggregate on Sunday with 1599.

Following Grater for civilian Master awards were Cliff Pierson, Sun Valley, with 3180 and Wayne Raxter, Los Angeles, with 3175. High service Masters were S/Sgt. Charles Madden, Lackland AFB, 3175, Mike Allen, Berkeley, 3171 and Victor Auer, Sherman Oaks, 3169.

Other class winners were:

Civilian Expert

Edward True	3169
John Willott	3166
Kathy LaMonte	3157

Service Expert

Capt. Patrick Cavanaugh	3147
Don Wood	3143

Civilian Sharpshooter

Phyllis Sumner	3125
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Civilian Marksman

John Demas	3087
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Service Marksman

John Schwelm	3092
A2C William Poole	3090

Robert Bodston, San Gabriel, and Wm. Grater won the two man iron sight team match with 799-65x, followed by Richard Burkhart and Forrest Kline with 798-62x. Loren Samsel, Dallas, Penna. and Aric Hata, Fresno were expert class winners with 798-45x.

R. B. Findley, El Paso, Texas, won the International Shooting Fund aggregate with 797-51x and Grater was second with 797-43x.

CORRECTION REGARDING THE .22 JET

By Fred W. Hallberg

Well I've done it. I've made a mistake. I only hope I was the first to bring it out in writing. The material was here all the time but was overlooked. Remember when Mortimer Snerd was asked how he could be so dumb? He replied, "It aint easy."

In the February 1965 issue, P. S. published a letter I had written to Major George C. Nonte, Jr. In that letter I suggested that the .22 Jet cartridge had too much shoulder relative to the body and further noted that "if the shoulder had been shortened by an eighth of an inch or so it probably would not have had its tendency to set back against the recoil plate. To make matters worse, I suggested that there was an unfortunate lack of imagination on the part of the ballistics people who worked on it.

All the above is wrong. The ballistics people who worked on that cartridge did show imagination and they did a good job in trying to overcome a difficult problem.

Tests conducted last summer showed that any fully loaded bottle neck rimless cartridge (particularly those that had previously been fired with reduced loads so as to create head space) would jamb back against the bolt head with sufficient pressure to resist turning if the chamber had been in a revolving cylinder. Such jamming did not occur with the few rimmed straight sided cartridges that were also fired at that time. This remained true regardless of the type of load previously fired in the straight sided case. These observations also have a bearing on the current controversy regarding the action of gases in a given chamber.

This must be the reason why revolver cartridges have always remained more or less straight sided. The 32-20, 38-40, and 44-40 got away with it because their bottle necks were slight and also because their loads were relatively mild. It may be that this same thinking had a bearing on the design of the Holland and Holland belted magnum case. The original cordite load was not easy to handle. The British have always tried to avoid heavy shoulders by increasing body taper. The .303 is a good example.

So you see, the ballistics people did know what they were doing when they created that long taper. They were simply trying to modify the effect of pressure so as to leave as little as possible for it to "push" against. Now you physicists know that "push" is not the right word to use but perhaps it may illustrate what I am trying to say. It would be interesting to have some of the responsible ballistics people tell us about their work in the development of this cartridge. In writing about it, I have sold myself so thoroughly on this gun that I shall hike down town and buy me one. My firing to date has been with guns owned by friends.

While on the subject, I would like to say a few things about the 32-20. It has always seemed to me that this cartridge should be resurrected and reloaded for use in a heavy magnum revolver. It should make an excellent all around plinkers cartridge adaptable to all velocities—high and low. Of course, I am assuming it will not set back against the recoil plate. The crack of a full load will be sharp but the recoil will not nearly be as bad as that of our current crop of magnums. Is this a foolish idea? If called the .32 S&W Magnum it could be differentiated from the standard 32-20 cartridge.

10-X

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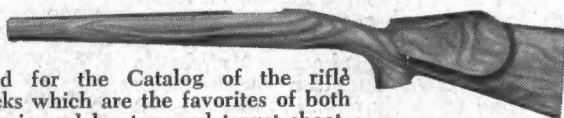
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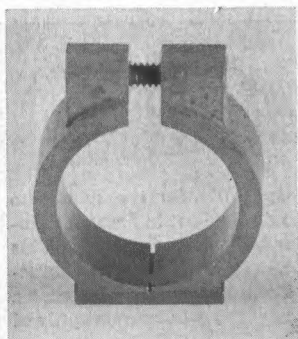
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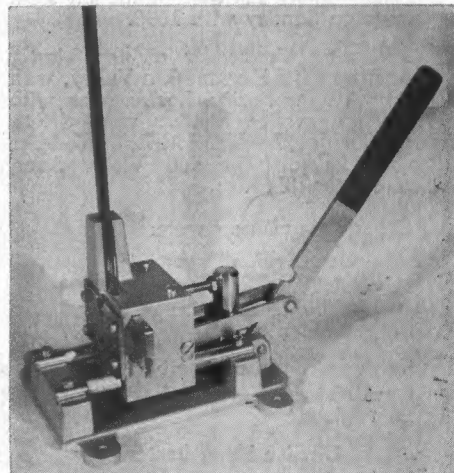
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